expounded the views of that author according to the principles laid down by Mr. Darwin. He argued that man's intellectual and moral nature, as well as his body, were derived by natural causes, from the lower animals; and he maintained that Auguste Comte's worship of humanity would be the great doctrine of the future. He stated also that there were evidences of man's development furnished by the low condition of the human skulls of the palæolithic age.—Canon Tristram, in the discussion on this paper, granted what Comte and his followers had to say about the physical organism of man being like that of the lower animals, but was there not a metaphysical side to this question which ought to be heard.—Mr. Boyd Dawkins considered that Mr. Haines confounded two different propositions together in his essay. It was assumed, that because man's body was probably derived from that of the lower animals, his mind was equally thus derived. All naturalists were agreed, that man, so far as his body went, was descended from the lower animals; that he was the crown and front of the animal kingdom. But as regards man's mind, and his moral and intellectual faculties, he denied that any evidence whatever had been brought forward to show that their rudiments were to be found in any of the lower animals. The very least that can be done is to wait for more evidence, and the very worst to confound body with mind. He also denied that the palæolithic skulls afforded any trace of a lower state of intellect than at present. The skull of man found in the Dordogne was rather larger than usual; and that of Neanderthal, according to Prof. Huxley, might have enclosed the brain of a philosopher. We had no right to ascribe the actions of the lower animals to the same motives as our own, or to judge of their intellectual faculties by our own standard. On the evidence at present before us we must be content to confess our own ignorance.

On Wednesday, August 9, the following papers were read in the Anthropological department:—W. J. W. Flower commenced *On the Succession of the several Stone Implement Periods in England.* He argued that the two eras, Paleolithic and Neolithic, which had been given to these implements, were not now enough for England, the drift-period being separated from that of the cave, and that again from the tumuli and barrows.—Mr. Pengelly objected to the difference in time being made between the rough and polished flint implements, suggesting that it was probable that men who wished implements for rough and ready purposes, would break them off and form them, and would not go to the trouble of polishing them. He thought the fourfold arrangement of flint implements suggested by Mr. Flower might be convenient, but that at the same time the different kinds might be of contemporary formation.—Col. Lane Fox was inclined to think many of the types were accidental, arising from want of time for the worker to employ his talent. There were two great designs, however; one in which an end is rounded off so that the implement can be used in the hand, the other design being pointed at both ends, so that the implement might be inserted in a haft. As to the duration of the stone period, he thought we required a great deal more investigation and information.—Mr. Prestwich, assuming that the rivers of the flint period were frozen five months of the year, as they were now in Siberia, said some of the rough implements would have been used for cutting holes in the ice, while others would be used for digging roots. Another form, common to a later period, were the scrapers, used for scraping the skins of animals.

A paper was read from the Rev. W. Webster, *On certain Points concerning the Origin and Relations of the Basque Race.* It was in contravention of some ethnological theories propounded by Professor Huxley at a former meeting of the Association. A brief discussion took place, in which it was shown that the Basque language had similar inflections to those of the eastern languages.

Prof. Struthers gave a paper *On Sagittal Synostosis*, which was almost entirely anatomical. A controversy between design and evolution was introduced in the discussion of it.

Prof. McCann read a paper in opposition to *Mr. Darwin's Views on the Moral Sense in the Lower Animals*, maintaining that the moral sense was only implanted in man, and was the result of Divine intuition. A discussion took place on this, in which Prof. Struthers and Mr. W. Goodsir addressed the section.

The business was concluded by the President recapitulating generally the transactions of this department during the meeting. A cordial vote of thanks was passed to Prof. Turner for his services in the chair.

The sub-section was very well attended throughout the meetings, in spite of the desultory nature of the discussions, and the heterogeneous character of the papers, and of the absence of the usual debates.

## SCIENTIFIC SERIALS

THE fifth number for the present year of the *Bulletin de l'Académie Royale des Sciences de Belgique* (May 1871) contains several important papers, among which we may particularly notice a Synopsis of the Cordulinæ, by M. E. de Selys Longchamps, and some investigations on the Evolution of the Gregarinæ, by M. E. Van Beneden. The former is a monographic revision of the extensive sub-family of Dragonflies, of which the genius *Cordulia* is the type; it contains a general sketch of the group and its subdivisions, and descriptions of all the known genera and species, with indications of the chief synonymy. This fresh instalment of the author's synopsis of the Dragonflies will be welcomed by entomologists. M. van Beneden's paper is a most valuable contribution to the history of those obscure parasites, the Gregarinæ; his observations were made on an unusually large species, measuring as much as 16 millim. in length, and found in the intestine of the lobster. This species, named by the author *Gregarina gigantea*, is figured in various stages in the plate accompanying the paper.—From M. J. J. d'Omalius d'Halloy we find a short note on the natural forces, in which he argues for the existence of a distinct vital force, and expresses the opinion that the vital force of man differs from that of other living beings.—M. F. Duprez discusses the observations on atmospheric electricity made at Ghent, and compares them with those made at other places; and M. de Koninck gives a tabular list of the fossil corals of the Carboniferous formation, showing their distribution in various parts of the world.

THE first publication of the Anthropological Institute has just appeared in the form of a double number of the journal, to which is attached an appendix extending over 160 pages, and containing the proceedings of the Anthropological and Ethnological Societies prior to the date of their union. Amongst the most important papers in the appendix we may mention those on "Some of the Racial Aspects of Music," by Mr. Kaines; on "The Kinnerian and Atlantean Races," by Mr. M'Lean; on "The Concord and Origin of Pronouns, and the Formation of Classes or Genders of Nouns," by Dr. Bleek; on "Some Stone Implements from Africa and Syria," by Sir J. Lubbock; on "The Prehistoric Antiquities of Dartmoor," by Mr. Spence Bate; and on "East African Tribes and Languages," by Dr. Steere. The journal itself contains eight papers, all of considerable value, but amongst which we may especially refer to those by Sir J. Lubbock "On the Development of Relationships;" by Mr. C. Stanisland Wake on "The Mental Characteristics of Primative Man, as exemplified by the Australian Aborigines;" by Dr. Bleek on "The Position of the Australian Languages;" and by Mr. Boyd Dawkins on "The Results obtained by the Settle Cave Exploration Committee out of Victoria Cave in 1870."

No. 3, Vol. I. Ser. 2, of the *Proceedings of the Royal Irish Academy* has just been published. It contains, Science:—J. W. Dawson, LL.D., Addendum to paper on Eozöon; Professors King and Rowney on the Geological Age and Microscopic Structure of the Serpentine Marble or Ophite of Skye, Plate XIV.; also on the Mineral origin of the so-called Eozöon Canadense; Prof. Hennessy, F.R.S., on the Flotation of Sand by the rising tide in a tidal estuary; Dr. J. Purser, Report on the Researches of Prof. Cohnheim on Inflammation and Suppuration; C. R. C. Tichborne, report on the Molecular Dissociation by Heat of Compounds in Solution (abstract). Polite Literature and Antiquities:—H. Stokes, a List of the existing National Monuments of Ireland in the County of Kerry; A. G. More, F.L.S., on an Ancient Bronze Implement found near the Hill of Tara; R. R. Brash on an Ogham Stone at Kelbonane, County of Kerry, Plate XIII.; and an Appendix contains minutes of the proceedings of the Academy.

## SOCIETIES AND ACADEMIES

### LONDON

Hackney Scientific Association, June 6.—From the report read by the hon. secretary, Mr. H. W. Emons, it appeared that the society had made good progress during the past session, the number of members having more than doubled, and the papers

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communicated having been both numerous and important. Amongst the actual contributions by members to the progress of science during the session may be mentioned—A Method for ascertaining the Existence of Lunar Activity (Mr. W. R. Birt, F.R.A.S., vice-president), A new variable Star *e* Herculis (Mr. H. T. Vivian), Experiments to ascertain the Absorption of Atmospheric Nitrogen by Plants (Mr. G. E. Davis), A Determination of the Dimensions of the System of Algol (Mr. A. P. Holden), A List of the Fossil Mammalian Remains in the Lea Valley (Mr. R. E. Olliver), A new Section Cutting Apparatus (Mr. W. West), A new classified Catalogue of variable Stars, &c. Numerous original papers had also been read. Good progress had been made with the library, which had been enriched by contributions from several gentlemen, societies, and members. The officers for the fifth session having been elected, the meeting was brought to a close.

### PARIS

**Académie des Sciences**, August 21.—M. Faye in the chair.—M. Chabris has calculated the quantity of nitrate of ammonia yearly carried down to the soil for the nutrition of plants by means of the rain to be two pounds of nitric acid, and consequently, three pounds of nitrate of ammonia per acre.—M. Dumas contributed to the Academy a piece of bread, the provision for the army, which had been infected by *Oidium aurantiacum*. Such facts are not exceptional, principally in very hot weather, and may be detrimental to the public health, as the fungus spreads very rapidly, and it is very difficult to get rid of it. A special committee has been appointed to prevent the infection if possible. MM. Dumas, Baron Larey, Tulasne the botanist, and Pasteur, the celebrated author of so many works on spontaneous generation, are members.—M. Berthelot has examined most carefully a piece of carbon from the Cranbourne meteorite, an Australian stone, and shows by many scientific arguments that the Cranbourne carbon is quite unlike the Orgueil meteorite carbon (a French specimen). The Cranbourne carbon must have been acted upon by a high temperature in ultra-terrestrian space, and no trace of organic origin is to be found on it.—M. W. de Fonvielle sent through M. Leverrier a note establishing that meteoric phenomena analogous to the Marseilles phenomenon are not exceptional cases.—M. Bert, the former Prefect of Lille during the war, described some most interesting experiments on the effects of pressure in suffocating animals living in a confined space. The rapidity of death is not the same for every kind of animal. If the pressure is very high the death is not due to any mechanical effect or to the want of oxygen, but to the presence of carbonic acid, resulting from respiration. It is poisoned by the produce of its own lungs.—The Academy held a secret committee for the nomination of a free member. The list of candidates long delayed was at last published, and M. Belgrand is at the head. But the nomination will be contested.

August 28.—M. Faye in the chair.—M. Saint Venant, a member of the Academy, sent a rather long paper "On the Motion of the Waves," and tried to express through several groups of equations the several motions, which he calls *houles* and *clapotis*, both of which become manifest when the sea is heavy. These new calculations are in some respects grounded on a work published by Gerstner in 1804, "Theorie der Wellen."—Dr. Wurtz, a member of the Academy, sent a paper "On the Action of Chlorine on Aldehyde."—M. Dumas presented, in the name of MM. Montefiore, Levy, and Kunzel, a work entitled "Experiments on Different Alloys, and principally on a Phosphoric Brass, which can be used for casting guns."—M. Jaussen sent to the Academy a complete report "On the Aeronautical Expedition with the *Volta*." The paper is printed in full.—MM. Troost and Hautefeuille sent a very long paper "On Subchlorides and Oxychlorides of Silicon." These chemical researches were executed in the laboratory of the Normal School, and have induced the learned experimenters to explain a new chemical paradox, and to show how it may happen that silicon appears to be volatilised under very curious and peculiar circumstances.—M. Leverrier read an account of several papers sent from Florence by M. D. Muller, relating to several important questions of terrestrial magnetism. In one of these papers the learned physicist explained how a very large perturbation was observed at the very moment when the sun and the moon came into contact on December 22, 1870, and ceased just when the two discs were separated. M. Muller was one of the Italian eclipse party sent to Terra Nova (Sicily). The view of the eclipse was lost, but a most interesting fact was witnessed. The Italian Government will very shortly issue a special publication on this unexpected phenomenon. It is to be noted, moreover, that the total amount of ecliptic perturbation was diminished in proportion to the distance from the central line of total obscurity.—At the secret committee which followed M. Belgrand was elected a free member.

### NEW ZEALAND

**Wellington Philosophical Society**, July 1.—The president, W. T. Locke Travers, F.L.S., in his address, dwelt on the rapid extinction of the interesting subalpine vegetation of New Zealand, and stated that in a few years many plants that were not rare when he first botanised the Nelson Mountains would soon only be found in herbaria. Mr. Buchanan described the following addition to the flora: *Haloragis aggregata*, *Celmesia laterale*, *Acæna glabra*, *Rosthovia Novæ Zælandiæ*, *Danthonia monoica*, and subspecies of *Danthonia semi-annularis* and *Carex pyrania*. Dr. Knox gave the results of the dissection of the supposed Native Rat, and showed that it could not be distinguished from *Mus Rattus*. Mr. Skey announced the isolation of the bitter principle of the kernel of the Karaka berry (*Corynocarpus lævigata*) as a non-nitrogenous crystallisable resin similar to Digitaline. He proposed to name it Karakine. Dr. Hector exhibited the neck of a Moa with the skin, feathers, and tissues attached, and pointed out the similarity of the feathers to those of the Emu, while they differed from the Kivi; remarking that *Apteryx Mantelli* has the feather shafts prolonged, giving the skin a harsh bristly feel, which distinguishes it from *A. Australis*. He showed a fine series of models of Moa's eggs he had prepared for comparison with the cast of the Æpyornis egg recently received. By a series of specimens which he had obtained alive from the natives and afterwards dissected, Dr. Hector showed that the difference between *Glaucopsis Wilsoni* and *G. olivascens* are merely sexual. Captain Hutton described the following additions to the birds of New Zealand: *Hydrocheledon leucoptera*, Temm, *Procellaria fuliginosa*, *Thalassidroma marina*, *Strepsilas interpres*, and a Totanus and Laurus that have not yet been determined. He also showed evidence of the existence in New Zealand of a goose allied to the Bean goose of Europe, and stated that it had been surmised by Dr. Finsch in a paper published last year that two of the above—Strepsilas and Totanus—would probably be found in New Zealand, and also an Actitis, which has not yet, however, been obtained.

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ERRATUM.—Vol. IV., p. 358, second column, line 20 from bottom, for "1870" read "1770."

### NOTICE

*We beg leave to state that we decline to return rejected communications, and to this rule we can make no exception.*

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